Appl. No. 10/520,502
Amdt. dated August 30, 2006
Reply to Office Action of May 30, 2006

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended)   A method for detecting the differentiation status of stem cells comprising detecting the expression of 5T4 antigen in said stem cells, wherein the level of expression reflects the differentiation status of said cells.

2. (Currently amended)   A method as claimed in claim 1 wherein a low or negligible level of 5T4 antigen expression indicates undifferentiated or pluripotent stem cells.

3. (Original)   A method as claimed in claim 2 wherein said stem cells are mammalian stem cells.

4. (Original)   A method as claimed in claim 3 wherein said stem cells are embryonic stem cells.

5. (Previously presented)   A method as claimed in claim 2 wherein said stem cells are murine, human, primate porcine, feline, bovine, ovine or canine.

6. (Previously presented)   A method of claim 2 wherein said 5T4 expression is detected by anti-5T4 antibodies.

7. (Canceled)

8. (Original)   A method of detecting differentiation status of a population of mammalian stem cells comprising the steps of:

    a)   taking a sample of cells from said population of mammalian stem cells;

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b)   incubating said sample with a labelled anti-5T4 antibody such that specific binding of anti-5T4 antibody to 5T4 antigen occurs; and

c)   detecting said binding of said antibody wherein binding of the anti-5T4 antibody to cells in the sample is indicative of the presence of 5T4 and differentiated stem cells.

9. (Currently amended)   A method for separating a population of undifferentiated or differentiated mammalian stem cells from a mixture of differentiated and undifferentiated stem cells comprising:

a)   binding cells, in a mixture of differentiated and undifferentiated stem cells, with anti-5T4 antibody;

b)   separating cells with bound antibody from cells with no bound antibody; and

c)   isolating the cells.

10. (Previously presented)   A method as claimed in claim 9 wherein said isolated cells are viable.

11-13. (Canceled)

14. (Previously presented)   A method of detecting differentiated mammalian cells, said method comprising use of an antibody recognizing 5T4 to detect 5T4 expression, which reflects the differentiation status of said cells.

15-20. (Canceled)